

JAN 07 2008

PATENT APPLICATION
USSN 10/591,198
Attorney Docket No.: VMP-40009

Amendments to the Specification

Please amend the beginning of page 1 as follows

Specification

BACKGROUND OF THE INVENTION

1. Field Of The Invention.

The present invention relates to water soluble salt cores ~~having the features of the preamble of claim 1~~ which are manufactured by compacting a mixture of water soluble salts and binder under pressure and by subsequently subjecting the compacted mixture to a thermal treatment.

2. Description Of The Prior Art.

Such salt cores for casting purposes that are flushed out of parts after casting as well as attempts at optimizing them by admixing additives have been long known. In DE-C-14 83 641 it has been found that adding up to 10 % of borax, magnesium oxide or talcum improves the load capacity of salt cores consisting of NaCl and/or KCl. DE-A-19 34 787 proposes to add a synthetic resin binder and water glass in order to avoid pressing and sintering. These admixtures are also known from US-A-37 64 575.

Please amend the beginning of page 2 as follows:

~~This object is solved with the features recited in claim 1. Advantageous embodiments and developed implementations of the invention and in particular a method of the invention are comprised in the other claims.~~

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In accordance with the invention, water soluble salt cores that are manufactured compacting a mixture of water soluble salts and a binder under pressure and subsequently sintering said compacted mixture are characterized in that the binder is an inorganic phosphate or a mixture of inorganic phosphates with a fraction of between 0.5 and 10 wt. % of the mixture. The mixture can contain a fraction of an inorganic borate. At low compression pressure, a high fraction of binder yields quite rough a surface, whereas at high compression pressure a low fraction of binder yields a smooth surface. At a sintering temperature of 200 °C, tensile strengths of between 1 and 3 kg, at 400 °C of between 2 and 3 kg are achieved.

According to an advantageous implementation of the invention, the mixture contains a fraction of between 0 and 10 wt. % of a parting agent such as graphite.

The inorganic phosphate is for example a monoaluminium phosphate, a boron phosphate or a sodium polyphosphate.

Heat treatment is carried out at temperatures of below 730 °C, preferably at temperatures ranging between 200 °C and 650 °C, so that the aggregate state of the salt cores will not change.

DETAILED DESCRIPTION OF THE EMBODIMENTS OF THE INVENTION

The invention will be illustrated in greater detail herein after by way of example only with reference to tests. Tensile strength was determined by means of a pneumatically

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operated spring scale with maximum pointer, said maximum pointer indicating a kilogram value when the clamped sample broke.